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Certain physical and chemical properties of this oil have commended it to us as a substance which might well find a place in our dietary. In appearance it is pleasing. It contains little or none of the products which cause oils to become rancid quickly, so that its keeping qualities are excellent. It has a very low melting point, while at the same time it has a high smoking point, as compared with some other materials in common use. For example, lard smokes at 350° F., refined cottonseed oil at 500° F. and corn oil at 600° F., while corn oil has the lowest melting point of the three. Refined corn oil has been used both as a food and in hospitals as a substitute for olive oil, and has been pronounced superior to the latter. As a food this oil is used as a salad dressing, as shortening in bread and cracker baking, and as an ingredient of oleomargarine and lard substitutes.

The writer has devoted considerable study to this oil in its various food relations, and in a paper presented before this Academy last year pointed out some of its qualities which would indicate that it would prove a valuable addition to our dietary. Since that time further experiments have been made by the writer, and additional reports have been obtained from housekeepers who have tested it.

The data obtained during the past year bear out the earlier conclusions concerning this oil. As a salad oil the refined corn oil is superior both to olive oil and to refined cotton seed oil, many persons finding it the more palatable of the three. When used in a salad dressing, such as mayonaise, it emulsifies with the egg more easily than do these oils, and so is better adapted to this use. It has also been found to be superior to these oils in its digestibility. Other investigators have pronounced it high in nutritive value, declaring that it contains a very high amount of those necessary bodies known as vitamines. The writer, then, feels that his former conclusions are fully substantiated and that this oil is now proven to be worthy of a permanent place in our dietary. One difficulty in its earlier introduction into general use has been the fact that the manufacturers have sold it only in barrel lots. Now two firms are placing on the market under their trade names refined corn oil suitable for domestic use.

Current price to retailers, 2 dozen pints, \$7.50; 1 dozen quarts, \$7.

Aqueous Loess.

(Abstract.)

J. E. TODD.

If one includes in the definition of loess that it is of eolian origin, our subject expresses an absurdity, but if the term is still to be employed in its original sense, it should imply certain physical characters without regard to the way in which they have been produced. Typical loess is generally recognized as being a light, yellowish gray or buff silt of impalpable fineness, having, when dry, the rigidity of rock without its hardness, and when thoroughly wet a plasticity which causes it to creep and fault and to show prevalent columnar jointing. Some would confine the term to Quaternary deposits, and that is usually the usage.

Elsewhere the writer has indicated some cases of eolian loess (Kan. Acad. Sci. Proc. 1916.), also similar deposits of aqueous origin. (Iowa Acad. Sci. Proc., Vol. XXVI, p. 356.) A few years ago he called attention to the probable different age and origin of the lower part of the loess at Kansas City, Mo. (Mo. Geol. Survey, Vol. X.) This paper is to emphasize its later date and aqueous origin. It is sixty to eighty feet in depth at many localities and is probably of early Wisconsin origin.

The reasons for believing in its aqueous origin are the following:

1. The terrace-like form of the deposit. At Kansas City, Mo., it forms a distinct bench along the north side of the city, with its top 125 to 150 feet above the river. Most of Kansas City, Kan., agrees in height. Also at Leavenworth and at other localities, given in a later section.

2. The occurrence of distinctly water-laid strata in the lower part of the terrace, and a gradual and indistinct passage upward into typical loess. This has been observed at the Kansas Cities, St. Joseph and Sioux City.

3. The low level of the base of the formation. This is usually very little above the level of the flood plain of the present stream, or 25 or 30 feet above the stream itself. This is in marked contrast with the usual bank of the stream, which is 150 to 200 feet of Carboniferous strata capped with till and loess. Moreover, this deposit occurs in bends or coves of the highland bluffs, as though it were in remnants of an old channel once deeply filled with it, and from which the present deeper channel has since been excavated.

Besides the localities already indicated, it has been noticed along the Missouri below Forest City, Mo., near Iowa Point, Kan., and along Wolf creek, a little above its junction with the Missouri. It appears along the Kansas near Armstrong, Muncie, Edwardsville, Holliday, Bonner Springs and northeast and northwest of Lawrence. The typical loess along the Missouri has the lighter buff color prevalent in the later sediments of that stream, while along the Kansas it is darker reddish, as if derived more from carboniferous shales.

This deposit has been so connected with the higher loess, which is probably of eolian origin, by wind action, hillside wash and creeping, that all have been considered one formation.

March 23, 1918.

Lacustrine Beds Near Atchison.

(Abstract.)

J. E. TODD.

It has been known for several years that there is thick deposit of sand exposed at Spaulding's quarry, a little northeast of Atchison, Kan.

The quarry is in the upper Oread limestone, its top being over fifty feet above the level of the flood plain of the Missouri. Upon the limestone lies a stratum of chert gravel, 8-10 feet in thickness, and upon that 50-60 feet of rather fine sand. Over all is 10-15 feet of Kansan till capped with 25-30 feet of loess. Northern erratics occur occasionally in the upper part of the sand, but not below. The sand corresponds in age to the